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generally will supply us, as opportunities may offer, with information of this kind. Books sent to the library of Harvard University will be noticed.]

Abstract of Meteorological Observations for December, January, February, and March, taken at Cambridge. By Prof. Farrar.

		Barometer.			Thermometer.		
		7 A.M.	2 P.M.	9 P.M.	7 A.M.	2 P.M.	9 P.M.
Dec.	G.	30.75	30.75	30.77	42°	53°	42°
	M.	30.220	30.188	30.190	24.83	36.64	27.48
	L.	29.72	29.69	29.71	3	15	8
Jan.	G.	30.51	30.50	30.78	52	52	42
	M.	30.032	30.016	30.047	18.29	30.35	19.43
	L.	29.43	29.27	29.29	—10	10	—3
Feb.	G.	30.50	30.49	30.52	35	48	37
	M.	30.075	30.00	29.871	11.21	25.00	14.57
	L.	29.43	29.08	29.00	—18	—4	—16
Mar.	G.	30.61	30.60	30.59	37	50	39
	M.	30.108	30.073	30.088	24.66	38.8	32.41
	L.	29.54	29.69	29.53	4	23	12

December, rain and snow reduced to water 1 inch. Ditto for January 3.17—for February 3.28—for March 1.12.

Average heat of each month of the last year compared with the mean temperature of the several months, deduced from the observations of 23 years.

Jan.	Feb.	Mar.	April.	May.	Jun.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Mean of 1816.												
30.22	26.40	31.33	41.18	52.15	61.30	65.90	67.42	57.65	50.66	42.23	29.65	46.33
Mean of 23 *years.*												
24.97	27.01	35.46	46.76	56.66	67.36	72.44	70.66	62.43	50.71	38.75	30.05	48.6

Average heat of the last January 22.36, that of February 16.93. This latter month, it will be seen, was more than ten degrees colder than the mean above given. The next coldest in the period referred to was that of 1791, when the mean heat was 20.7. The following is the mean state of the thermometer on the coldest days, which have occurred since 1790. It is the result of three observations; viz. at 7 o'clock A. M. 2 P. M. and 9 P. M. 1792, Jan. 23d, —6.5° or 6.5° below zero. 1797, Jan. 8th, —7.5°. 1807, Jan. 26th, —6.5°. 1810, Jan. 19th, —4.4°. 1812, Jan. 18th, —5.7°. 1815, Jan. 31st, —10.2°. 1817, Feb. 5th, —7.6°. Feb. 14th, —6°.

Feb. 15th, —4.3°. The greatest cold that has been observed during this period of twenty seven years, was on the morning of the 15th Feb. when the thermometer descended to 18° below zero. The next greatest cold, was that of Jan. 26, 1807, when the thermometer stood at 16° below. The coldest *day* was that of Jan. 31st, 1815. The coldest week occurred in 1812, from Jan. 16th to the 22d; the average state of the thermometer was about 1½ above 0.

Errata in the meteorological table, for March, 1816. Against the 18th day of the month, instead of 5 read —5, and in the results at the foot of the table read the same.

Abstract of Meteorological Observations, taken at Brunswick.

By Prof. Cleaveland.

FEB. 1817.

Mean monthly temp. from three observations each day	16.15°
Do. do. do. from maxima of heat and cold	12.91
Greatest heat	48.00
Greatest cold	—23.25[*]
Mean height of the Barometer	29.625 in.
Greatest monthly range of do.	1.510
Quantity of rain and snow reduced to water	4.010
Days entirely or chiefly fair	10
Do. do. do. cloudy	18

Directions of the winds in proportional numbers, viz. N. W. 13—N. E. 12—S. W. 10—W. 3—N. 1—E. 1—S. 1—S. E. 1. The predominant form of the clouds has been the *cirro-stratus*, occasionally attended by the *cirrus*, and, toward the latter part of the month, often passing into the *cirro-cumulus*.

MARCH, 1817.

Mean monthly temp. from three observations each day	30.50°
Do. do. do. from maxima of heat and cold	27.96
Greatest heat	53.00
Greatest cold	—7.50[†]

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[*] This — indicates degrees below the zero.

[†] This degree of cold occurred on the night of the 2d of March; since which the thermometer has not fallen to the zero.

Mean height of the Barometer - -		29.688 in.
Greatest monthly range of do. - -		1.010
Quantity of rain and snow reduced to water		2.000
Days entirely or chiefly fair	17	
Do. do. do. cloudy	14	

Directions of the winds in proportional numbers, viz. S. W. 15—N. E. 11— N. W. 9—S. E. 4—N. 3—W. 2—E. 1—S. 1. During this month, the *cirro-stratus* form of the clouds has been *less frequent*, than it was in the winter months; and, on the contrary, the *cirro-cumulus* has been *much more frequent*, especially toward the close of the month.

Result of Meteorological observations, made at Williams College, 1816.
By Professor Dewy.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	25.3	27.2	33.8	52.6	63.	70.6	63.2	65.5	54.2	52.3	44.7	29.8
2	23.8	24.8	40.5	34.2	44.7	69.3	69.	67.7	64.6	54.	44.3	13.7
3	13.	33.	43.9	31.1	56.8	56.4	67.3	70.4	67.3	50.6	57.7	15.8
4	16.5	37.	32.	43.2	61.	56.8	61.9	66.5	62.	39.8	65.	19.1
5	26.7	23.8	27.5	52.7	60.3	68.8	64.8	65.1	62.6	44.2	55.7	22.2
6	14.1	19.	29.1	51.3	56.7	43.4	59.7	63.1	61.2	41.7	39.6	32.8
7	13.3	20.1	31.5	38.	48.	43.5	55.5	64.5	61.6	34.8	37.8	38.3
8	6.7	5.9	14.3	48.6	41.9	44.8	58.	67.2	67.3	45.4	43.7	34.2
9	11.1	10.5	6.7	49.9	44.3	48.6	54.5	65.8	57.6	57.3	37.9	20.5
10	10.3	14.9	15.4	29.	50.8	44.1	62.8	65.7	51.5	61.9	35.8	22.9
11	9.7	20.5	22.7	35.4	49.1	54.8	68.	71.1	50.2	52.7	30.8	32.9
12	19.8	29.8	32.	37.6	54.2	65.8	65.1	69.6	52.5	46.	26.6	42.2
13	8.4	12.1	32.7	35.8	55.	62.4	65.8	67.1	51.4	49.1	28.4	40.
14	2.7	0.7	35.1	30.6	39.8	69.4	67.	66.3	56.4	54.6	34.1	28.8
15	8.6	—.8	16.	31.5	46.1	64.3	71.5	74.2	60.5	56.2	43.	25.
16	21.7	8.2	28.9	31.6	45.5	62.2	79.1	73.5	56.5	53.4	36.9	11.5
17	44.7	23.4	18.	32.9	40.	62.4	59.2	68.2	51.2	40.9	52.5	21.4
18	32.	35.1	8.2	32.9	45.	60.3	58.5	71.2	56.7	38.8	61.5	39.
19	34.4	33.	21.5	39.6	56.3	73.4	69.2	73.5	57.3	40.6	63.5	15.9
20	21.4	33.4	33.9	44.4	58.3	56.6	71.8	63.1	62.3	50.3	60.9	19.
21	30.3	32.7	30.5	40.6	65.4	64.9	66.	51.6	41.7	58.2	31.1	18.5
22	31.4	32.5	18.9	42.1	67.3	74.7	71.1	59.8	51.5	57.6	21.4	13.8
23	31.7	37.1	31.4	44.8	50.	76.	73.	61.9	56.7	49.7	31.8	22.9
24	40.9	33.8	37.1	42.1	52.7	77.9	66.6	66.6	58.	42.5	32.4	34.7
25	24.4	40.2	32.5	47.3	44.3	56.7	60.4	61.3	51.9	39.9	23.6	44.1
26	31.1	33.8	49,	50.7	53.	61.8	62.5	63.3	40.4	48.	23.1	42.2
27	11.6	29.7	48.4	53.2	58.	62.7	63.9	57.2	40.1	41.7	35.5	44.
28	19.6	37.1	43.	54.3	59.7	56.8	60.	50.2	42.9	40.8	25.2	32.5
29	25.6	40.2	27.1	58.3	47.	57.4	59.8	54.1	46.2	49.9	27.4	32.7
30	13.1		30.4	63.8	58.	58.4	62,	64.	50.	55	40.	18.7
31	29.8		37.9		65.		66.7	62.2		53.1		30.7
Mean.	21.03	25.15	29.35	42.68	52.81	60.84	64.64	64.89	55.02	48.42	39.73	27.71
Highest.	53.	48.	67.	80.	78.	90.	90.	87.	85.	73.2	71.	50.
Lowest.	-13.3	-8.	-6.3	26.2	33.	35.	43.	37.5	25.3	27.8	5.5	1.
*	30.6	29.	32.7	35.5	32.3	34.5	30.	34.	38.7	36.	28.	28.
	4	11	27	30	3	11	2	29	28	1	26	24
Inches of water.	1.75	2.38	2.17	1.63	3.55	3.67	2.13	1.69	1.10	2.33	2.71	0.87

* This line contains the greatest range of the thermometer in one day, and the following line the day of each month when it occurred.

The thermometer is suspended upon the north side of the house, and protected from the direct rays of the sun. It is about six feet from the ground. The temperature is observed at 7 A.M. and 2 and 9 P.M. The above abstract of the observations contains the mean temperature of each day of the year, deduced from the three observations; the mean of each month; the highest and lowest temperature of each month; the greatest range on any one day of each month, and the day upon which it happened; and the quantity of rain and snow in each month. The mean temperature of the months is given accurately to the second figure of decimals; in the others the *nearest tenth* is taken.

The *mean* temperature for the year is 44.35.
. . . . . . of the highest and lowest in each month is 44.95.
. . . . . . of 7 A. M. and 2 P. M. is 45.69.
. . . . . . of 9 P. M. is 41.79.
Quantity of water 25.98 inches.
Dew and frost probably from 6 to 9 do.

Winds are almost wholly of *four* directions. At some one of the daily observations, the wind has been from the N. W. 279 times; S. 95; S. E. 74; and S. W. 71. It has been through the day from the N. W. 157 days.

The *highest* temperature was 94°, at noon, June 24th. This was an extremely hot forenoon;—a shower about 1 o'clock cooled the air several degrees. Among the sudden changes of temperature, that of July 5th may be mentioned. The temp. was 81° at 1, 43° at 5, and 66° at 9 P. M.

It is a common opinion, that the mean temp. of the place may be obtained from taking the mean temp. of its *springs*. The situation of the springs, however, must make some difference, even when there are no chemical combinations which affect their temperature. The following is the temp. of three springs, taken each month in the year. The 1st 48.39°; 2d 47.1°; 3d 46.11°. The 1st is near a rise of land of 64 feet, and its temp. has varied only 1.25° in the year. The others are under very small elevations and appear to be much more affected by the falling of rain and the melting of snow. The temp. of the 2d has varied 5°, and of the 3d, 18° in the year. The drought affected the *last spring* so much that its mean temp. may not perhaps be relied upon.

The very singular seasons of 1816 will long be remembered. The mean temperature of the summer months was several degrees lower than common. The mean of June, July and August, for the *six* preceding years, is 62.63; for 1816 it is 63.46. But in those six years, the morning observations were made about one and a half hour *earlier* than in 1816, and, in the middle of the day, frequently before two P. M. This shows, that the temp. of the summer of 1816 must have been several degrees lower than usual. The mean temp. of those six years was 44.87, which is about half a degree higher than the mean of 1816, when two of the daily observations were made at warmer parts of the day. Frosts are extremely rare in this region in either of the summer months; but in this year, there was frost in all of them. June 5th at noon, the temp. was 83°—a thunder shower had cooled the atmosphere 14° at 2 P. M. June 6th the temp. about 44° through the day—snowed several times. On the mountain to the west, and in Cheshire, Windsor, and Peru, at the S. E. the ground was white with snow—travellers complained of the severity of the N. W. wind and snow storm. June 7th, no frost, but the ground frozen, and water frozen in many places from $\frac{1}{20}$th to $\frac{1}{8}$th inch thick. Moist earth was frozen half inch thick, and could be raised from round Indian corn, the corn slipping through and standing unhurt. Had not the wind made the vegetables very dry, it is not improbable that they would have been frozen also. June 8th, Some ice was seen in the morning—earth very little frozen—no frost—wind still strong and piercing from the N. W. Cucumbers and the like appeared nearly destroyed. June 9th, Less wind, and some warmer. June 10th, Severe frost—Indian corn, beans, cucumbers, and the like, cut down. The corn grew again. June 11th, Severe frost—become warmer—temp. at 2 P. M. 70.5. Ten days after the frost, the trees on the sides of the hills, whose young leaves were killed by the frost, presented for miles the appearance of having been burned or scorched. The same appearance was visible through the county—in parts, at least, of Connecticut—and, also, on many parts of Long Island, as I was told by a gentleman of undoubted veracity, who had visited the Island. In one instance near us, the frost killed corn by the side of flax, which was uninjured. June 29th and 30th, Some frost was seen. July 9th, Frost this morning, which killed parts of cucumbers. Aug. 22d, Cucumbers were killed by the frost. Aug. 29th, Severe frost. Some fields of Indian corn were killed on the low grounds, while that on the higher land was unhurt. This fact occurs every year. Very little Indian corn became ripe in this region. Of that which was cut up at the roots immediately after being killed, and made to stand upright in small collections, about one half became fit for food. But that which was not cut up, made no further progress towards maturity. In the former case, there was sufficient sap remaining, for the process of vegetation to continue; in the latter, the roots being unhurt, the stalks, and especially the ears, became loaded, and overloaded with water. Had the above fact been known generally, much more corn would have been ripened. The other kinds of grain, as wheat, rye, and oats, produced abundantly. The crops have not been finer or in greater quantity, for several years. I have taken pains to inquire of farmers in this and the adjoining states, and they have uniformly stated, that the *cooler summers are much more favourable for the growth of English grain, as rye and wheat, than the warmer.* The opinion of each one has been independent of the others in every case.

The crop of potatoes was variable. In many instances they were as large and abundant as usual; in others, directly the reverse. Generally speaking, the crop was less than usual, by about one third or one fourth. The quantity of hay was less in about the same proportion. Its quality, however, was very excellent, and many farmers supposed it would afford about as much more nutriment, as the quantity was less than common. Of apples, not one fourth of the usual quantity was produced. Wild fruits, as strawberries, blackberries, &c. were very abundant. The drought was less severe in this place, than in many towns both north and south. But, even here, the quantity of rain from Aug. 27th to Oct. 16th, was only 1.3 inch; and in the last thirty days of this period only 0.33 inch. For several days before the rain on Oct. 17th, it was remarked that the earth was growing moist—grass starting anew in various places—the roads cut up by wheels in places, over which they had rolled for weeks without making but very little impression—and the springs and small streams yielding larger quantities of water. These were *obvious facts.*

They were said to be common before the termination of droughts, and very many were, consequently, in full expectation of rain. These are, however, the *first facts* of the kind, to which I had paid any attention. They are similar to what is called by common people *the swelling of the water*, at the close of a *dry time* in winter. It has long been matter of common remark, that when the streams are covered with ice, the water *swells*, and raises the ice, or rises above it, just before the fall of rain ; and this *swelling* of the water is considered a sure indication of the termination of the dry period. *If these be facts*, they afford a strong proof of Dr. Halley's theory of the supply of springs and streams. The subject, if it has not been already determined, is worthy of the attention of the curious observer of nature.

To Correspondents.

The Editor requests those, who may make any communications for this journal, to direct to the care of the publishers, No. 1 Cornhill, Boston, or Hilliard and Metcalf, Cambridge. It is expected that such communications as come through the post office, unless made by request, will be sent free of postage.

A well written article, received through the medium of the post office, was rejected with regret; but the author will perceive that his views are so different from those expressed in various parts of the journal, that we could hardly adopt them.